

AUG 17 2007

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Serial No. 10/644,354

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Philpott  
SERIAL NO.: 10/644,354  
FILED: 8/20/2003  
GROUP ART: 3683  
EXAMINER: Kramer, Devon C.  
FOR: Brake Overstock Indication System

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**APPEAL BRIEF**

Dear Sir:

Appellant submits this Appeal Brief pursuant to the Notice of Appeal filed June 26, 2007. Enclosed is a check for the appeal brief fee. Any additional fees or credits may be charged or applied to Deposit Account No. 50-1482 in the name of Carlson, Gaskey & Olds.

**REAL PARTY IN INTEREST**

The real party in interest is ArvinMeritor Technology, LLC assignee of the present invention.

**RELATED APPEALS AND INTERFERENCES**

There are no prior or pending appeals, interferences or judicial proceedings related to this appeal, or which may directly affect or may be directly affected by, or have a bearing on, the Board's decision in this appeal.

The PTO did not receive the following  
listed item(s) Check

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### STATUS OF CLAIMS

Claims 24-33 and 35-44 are pending, rejected, and appealed. Claims 1-23 have been cancelled. Claim 34 has been withdrawn. Claims 24 and 36 are independent claims.

Appellant would like to point out that there are two occurrences of claim 42. For purposes of this Appeal Brief the second occurrence of claim 42 is considered to correspond to claim 43. Appellant authorizes the examiner to do an Examiner's Amendment to change the second claim 42 to be numbered claim 43, or alternatively, appellant will correct the numbering, if needed, once patentability of the claims has been resolved.

### STATUS OF AMENDMENTS

All amendments and responses have been entered and considered.

### SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 24 recites a brake assembly 10 that includes a housing portion 12 comprising a fixed component adapted for attachment to a vehicle structure (page 3, lines 22-24 and Figure 1), an overstroke sensor 62, 70, 76, 78 mounted to the housing portion 12 (page 5, lines 14-15 and Figures 4-5; page 5, lines 27-28 and Figure 6; page 6, lines 5-9 and Figure 6; and page 6, lines 15-16 and Figures 7-8), and an operating shaft 22 that actuates a brake mechanism 30. The operating shaft 22 rotates about a pivot axis P relative to the housing portion 12 (page 3, line 27 through page 4, line 3 and Figure 1), and cooperates with the overstroke sensor 62, 70, 76, 78 to identify an overstroke condition (page 5, lines 16-27 and Figures 4-5; page 5, line 28 through page 6, line 4 and Figure 6; page 6, lines 6-10 and Figure 6; and page 6, lines 12-21 and Figures 7-8).

Independent claim 36 recites a method of indicating an overstroke condition of a brake assembly 10 having an operating shaft 22 that actuates a brake mechanism 30 (page 3, line 22 through page 4, line 3 and Figure 1), the method comprising the steps of: mounting an overstroke sensor 62, 70, 76, 78 to a non-rotating brake housing portion 12 (page 5, lines 14-15 and Figures 4-5; page 5, lines 27-28 and Figure 6; page 6, lines 5-9 and Figure 6; and page 6, lines 15-16 and

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Figures 7-8), and rotating the operating shaft 22 about a pivot axis P relative to the non-rotating brake housing portion 12 to selectively contact the overstroke sensor 62, 70, 76, 78 to identify an overstroke condition (page 5, lines 16-27 and Figures 4-5; page 5, line 28 through page 6, line 4 and Figure 6; page 6, lines 6-10 and Figure 6; and page 6, lines 12-21 and Figures 7-8).

#### **GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

A. Claims 24-27, 32-33, 35-39, and 41-44 stand rejected under 35 U.S.C. 102(b) as being anticipated by Hockley (US 5699880).

B. Claims 28-31 and 40 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hockley in view of White et al. (US H2026H).

#### **ARGUMENT**

##### **A. Anticipation Rejection Over Hockley**

The Examiner has rejected claims 24-27, 32-33, 35-39, and 41-44 as being anticipated by Hockley. The examiner argues that Hockley discloses a housing portion 30, an overstroke sensor 32, 34, and an operating shaft 18 that cooperates with the overstroke sensor 32, 34 to identify an overstroke condition.

##### **Claims 24, 27, and 32**

Claim 24 recites that the overstroke sensor is mounted to the housing portion wherein the operating shaft rotates about a pivot axis relative to the housing portion to cooperate with the overstroke sensor to identify an overstroke condition. Hockley does not disclose mounting an overstroke sensor to a brake housing. Instead, Hockley discloses mounting pointers 32, 34 to a bracket 30 that is mounted to a vehicle frame 22. The bracket 30 is not a housing and is not associated with a housing. The bracket 30 is configured to be separate from the brake assembly such that the bracket 30 can be mounted to the vehicle frame 22 in a variety of positions. See col. 4, lines 50-59.

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The examiner further argues that Hockley teaches mounting an overstroke sensor with a bolt to a housing portion 12, 14. Element 12 of Hockley comprises an air chamber 12 with a diaphragm 14. Appellant respectfully asserts that elements 12, 14, and 30 cannot be considered as corresponding to the claimed housing for the brake assembly.

Claims in a patent application are to be given their broadest reasonable interpretation, with this interpretation being consistent with the specification of the patent application (see, for example, In re Zletz, 893 F.2d 319,321; 13 USPQ2d 1320, 1322 (Fed. Cir. 1989)). Further, the terms in the claims should be construed as one of ordinary skill in the art would construe them (see, for example, Specialty Composites v. Cabot Corp. 845 F.2d 981, 986; 6 USPQd 1601, 1604 (Fed. Cir. 1988)). Further, as discussed in Phillipps v. AWH Corp., 415 F.3rd 1303, 1315; 75 USPQ2d, 1321, 1327 (Fed. Cir. 2005), the claims do not stand alone and are part of a fully integrated written instrument with a specification that concludes with the claims. Thus, the claims must be read in view of the specification, of which they are a part. Thus, the examiner's interpretation can be broad but it must be reasonable.

Hockley discloses a brake adjustment indicator that comprises a bracket 30, a first reference pointer 32, a second reference pointer 34, and an indicator 36. See col. 4, lines 34-36. The bracket 30 is mounted to a vehicle frame member 22. Appellant's brake housing that houses brake components is clearly shown in Figures 1 and 4-8 and is described in the accompanying specification. One of ordinary skill in the art simply would not consider the bracket 30 or air chamber 12 of Hockley as corresponding to the claimed housing.

Further, pointers 32 and 34 do not comprise an overstroke sensor as defined in the claim. Hockley teaches the use of an indicator 36 that is used to determine whether an overstroke condition exists. The indicator 36 is mounted to the moving push rod 16. In order to determine whether an overstroke condition exists, the vehicle operator must view the position of the indicator 36. See col. 7, lines 11-22.

Thus, appellant respectfully asserts that Hockley does not teach an overstroke sensor that is mounted to a housing as defined in claim 24. For similar reasons claims 27 and 32 are also allowable.

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Serial No. 10/644,354**Claim 25**

Claim 25 recites that the overstroke sensor is directly mounted to the housing portion. For the reasons set forth above, appellant asserts that air chamber 12 and/or bracket 30 cannot be considered as corresponding to the claimed housing. The examiner argues that bracket 30 can be considered a housing because it overlays member 18. First, bracket 30 does not "overlay" member 18. Member 18 comprises a brake arm that is clearly not overlaid by bracket 30, see Figures 7 and 8. Appellant respectfully requests clarification of the "overlying" relationship between elements 30 and 18 and how this relationship constitutes a housing for a brake assembly.

Second, even if bracket 30 can somehow be considered as overlying member 18, just because one element is overlapping with another element does not make it a housing. A housing has a meaning that is known in the art, and for the reasons set forth above with regard to claim 24, one of ordinary skill in the art would not consider bracket 30 as corresponding to the claimed housing.

Further, Hockley does not disclose mounting a sensor *directly* to a housing as claimed. Hockley discloses mounting pointers 32, 34 directly to a plate that is mounted to a bracket 30, which is directly mounted to a frame 22. Hockley also teaches mounting an indicator 36 directly to a clevis pin that is coupled to the push rod 16. There is no direct attachment of elements 32, 34, 36 to a housing as claimed. As such, claim 25 is allowable over Hockley.

**Claim 26**

Claim 26 recites that the housing portion comprises a non-rotating brake component. Appellant respectfully asserts that, for the reasons set forth above with regard to 24, bracket 30 cannot be considered as corresponding to the claimed housing. Further, even if bracket 30 can somehow be considered as corresponding to a housing, this bracket 30 clearly cannot be considered as corresponding to a non-rotating brake component as defined in claim 26. Bracket 30 is mounted to a vehicle frame and does not form any part of a vehicle brake assembly. As such, bracket 30 cannot be considered to be a brake component. Thus, claim 26 is allowable over Hockley.

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Serial No. 10/644,354**Claim 33**

Claim 33 recites that visual indicator comprises one of a movable post and a resilient buckling member, with the one of the movable post and resilient buckling member being movable relative to the housing portion in response to contact from the operating shaft to indicate an overstroke condition.

The examiner has argued that the overstroke sensor comprises pointers 32, 34 and that the bracket 30 corresponds to the claimed housing portion. The pointers 32, 34 are not movable members. Instead, pointers 32 remain fixed/locked to the bracket 30. Further, the pointers 32, 34 are not moved relative to bracket 30 in response to contact from the operating shaft to indicate an overstroke condition. Instead, indicator 36 is moved relative to the pointers 32, 34 to indicate an overstroke condition. When indicator 36 has moved beyond pointer 34, an overstroke condition is identified. Thus, claim 33 is allowable over Hockley.

**Claim 35**

Claim 35 recites that the housing portion comprises a housing wall having an opening extending through an entire thickness of the housing wall, and further recites that the overstroke sensor is mounted within the opening. Hockley does not disclose mounting an overstroke sensor within an opening in a housing wall as claimed. Instead Hockley discloses mounting the pointers 32, 34 to a plate 52 that is fixed to bracket 30. The pointers are not mounted within an opening in a housing wall. As such, claim 35 is allowable over Hockley.

**Claim 36**

Claim 36 recites the steps of mounting an overstroke sensor to a non-rotating brake housing portion, and rotating the operating shaft about a pivot axis relative to the non-rotating brake housing portion to selectively contact the overstroke sensor to identify an overstroke condition. The examiner argues that Hockley discloses a housing portion 30. For the reasons set



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forth above with regard to claim 24, appellant respectfully asserts that bracket 30 cannot be considered as corresponding to the claimed housing.

Further, even if bracket 30 can somehow be considered a housing, the bracket 30 cannot be considered to be a brake component. The bracket 30 is specifically configured separate from a vehicle brake assembly such that the bracket can be mounted in various different positions on a vehicle frame. Thus, the bracket does not form any part of a vehicle brake assembly.

Further, the overstroke sensor in Hockley is not mounted to a non-rotating component as defined in claim 36. To identify an overstroke condition, the vehicle operator must view the position of the indicator 36. Indicator 36 is mounted to the clevis pin that is coupled to the movable push rod, i.e. Hockley teaches mounting the overstroke sensor to a movable component. Thus, for the many reasons set forth above, claim 36 is allowable over Hockley.

#### **Claim 37**

Claim 37 recites the step of directly mounting the overstroke sensor to the non-rotating brake housing portion. For the reasons set forth above, appellant asserts that the bracket 30 cannot be considered as corresponding to the claimed non-rotating brake housing.

Further, Hockley does not disclose mounting a sensor *directly* to a brake housing as claimed. Hockley discloses mounting pointers 32, 34 to a plate 52 on a bracket 30, which is directly mounted to a frame 22, and teaches mounting an indicator 36 directly to a clevis pin that is coupled to the push rod 16. As such, claim 37 is allowable over Hockley.

#### **Claim 38**

Claim 38 recites that the overstroke sensor comprises a visual indicator of an overstroke condition, with the visual indicator including a movable member, and wherein step (b) includes moving the movable member relative to the non-rotating brake housing portion in response to contact from the operating shaft to indicate an overstroke condition.

The examiner has argued that the overstroke sensor comprises pointers 32, 34 and that the bracket 30 corresponds to the claimed non-rotating brake housing portion. The pointers 32,

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34 are not movable members. Instead, pointers 32 remain fixed/locked to the bracket 30. Further, the pointers 32, 34 are not moved relative to bracket 30 in response to contact from the operating shaft to indicate an overstroke condition. Pointers 32, 34 can be made of a flexible material such that the pointers bend out of the way as the indicator 36 moves past; however, this flexing movement does not indicate an overstroke condition. Instead, indicator 36 is moved relative to the pointers to indicate an overstroke condition. When indicator 36 has moved beyond pointer 34, an overstroke condition is identified. As such, Hockley teaches to visually identify overstroke based on a relationship of the distance between indicator 36 and pointer 34.

Thus, claim 38 is allowable over Hockley.

#### **Claim 39**

Claim 39 recites that the non-rotating brake housing portion comprises a housing wall having an opening extending through an entire thickness of the housing wall, and further recites the step of mounting the overstroke sensor within the opening.

Hockley does not disclose mounting an overstroke sensor within an opening in a housing wall as claimed. Instead Hockley discloses mounting the pointers 32, 34 to a plate 52 that is fixed to the bracket 30. The pointers are not mounted within an opening in a housing wall. As such, claim 39 is allowable over Hockley.

#### **Claim 41**

Claim 41 recites that the housing portion is part of a brake housing that substantially encloses the brake mechanism. The examiner has argued that bracket 30 or air chamber 12 corresponds to the claimed housing portion. It is clear from Figures 7 and 8 that the bracket 30 does not substantially enclose the brake mechanism, which includes components such as the brake arm 18, for example. Further, air chamber 12 also does not enclose the brake mechanism, i.e. air chamber 12 does not enclose brake arm 18.

One of ordinary skill in the art would never consider air chamber 12 or bracket 30 as corresponding to the claimed brake housing that substantially encloses the brake mechanism.



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Appellant respectfully requests that the examiner provide clarifying remarks to explain how the bracket 30 and air chamber 12 substantially enclose the brake mechanism, which clearly includes brake arm 18.

For the reasons set forth above, appellant respectfully asserts that claim 41 is allowable over Hockley.

#### **Claim 42**

Claim 42 recites that the housing portion of the brake housing defines an inner cavity that receives the operating shaft such that the housing portion substantially surrounds and encloses the operating shaft. The examiner has argued that element 18 corresponds to the claimed operating shaft. The examiner has also argued that bracket 30 is attached to a brake housing 14 which substantially encloses the brake mechanism. Figures 3 and 6 do not show element 14 surrounding shaft 18. In fact none of the Figures in Hockley show shaft 18 being surrounded or enclosed by any structure. As such, claim 42 is allowable over Hockley.

#### **Claim 43**

Claim 43, the second claim 42 in the attached Appendix, recites that the brake mechanism includes at least one piston that transmits force from the operating shaft to a friction pad that is engageable with a rotating brake component. The examiner has not provided any arguments to identify where the claimed piston is shown or taught by Hockley. Hockley does not disclose or teach the use of such a piston. Further, Hockley does not disclose a brake housing that encloses both a piston and operating shaft as defined in claim 43. Thus, claim 43 is allowable over Hockley.

#### **Claim 44**

Claim 44 recites the step of substantially surrounding and enclosing the operating shaft within the non-rotating brake housing portion. The examiner has argued that the operating shaft 18 of Hockley is substantially surrounded and enclosed by "brake housing 14." The figures of

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Hockley do not support this assertion. Again, appellant respectfully requests that the examiner explain how air chamber 12, 14 surrounds and encloses the shaft 18 of Hockley.

Appellant respectfully asserts that claim 44 is allowable over Hockley.

**B. Obviousness Rejection of Hockley Modified by White.**

Claims 28-31 and 40 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hockley in view of White et al. (US H2026H).

**Claims 28 and 40**

Claim 28 recites that the overstroke sensor generates a signal that is communicated to a controller. The examiner argues that it would have been obvious to have provided the sensor of Hockley with a signal sent to a controller as taught by White "to prevent the need for manual inspection of the indicator." Page 3, lines 17-18, Final Office Action. Appellant respectfully disagrees.

The examiner's proposed modification cannot render the prior art unsatisfactory for its intended purpose and cannot change the principle of operation of the base reference. See MPEP 2143.01. "A further advantage of the instant invention is that the indicator means and the reference means preferably interact when the indicator means extends past a reference means. This provides a positive visual signal, independent upon the angle from which the adjustment gauge is observed, that the brake system requires adjustment." Col. 3, lines 45-50. Hockley's purpose is to provide a *visual* brake indicator that operates to indicate adjustment irrespective of the angle from which it is viewed. The examiner is arguing that Hockley should be modified to use a sensor to generate a signal as taught by White to prevent the need for manual inspection. This would render Hockley unsatisfactory for its intended purpose.

Further, modifying Hockley to change from a visual to an electronic system would clearly change the principle of operation of Hockley. If the proposed modification would change the principle of operation of the prior art invention being modified, then the teachings of the

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references are not sufficient to render the claims prima facie obvious. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

Thus, claims 28 and 40 are allowable over the recited combination of references because there is no motivation or suggestion to modify Hockley in the manner proposed by the examiner.

#### Claim 29

Claim 29 recites that the overstroke sensor comprises a switch that is fixed to the housing portion. The examiner has argued that Hockley be modified with the teachings of White. For the reasons set forth above, appellant asserts that there is no motivation or suggestion to modify Hockley because the proposed modification would render the Hockley unsatisfactory for its intended purpose and would change the principle of operation of Hockley.

However, even if motivation or suggestion could be found, modifying Hockley with the teachings of White would not result in the structure recited in claim 29. White teaches the use of a switch 56 that is mounted to the moving push rod 14. The push rod moves the switch into contact with the actuator lever 36. If one of ordinary skill in the art were to modify Hockley with the teachings of White, the result would be to mount a switch to the push rod 16 in Hockley such that the switch could contact the shaft 18 to indicate an overstroke condition.

However, the claims require that the switch be fixed to the housing portion. Neither Hockley nor White disclose, suggest, or teach mounting a switch to a housing portion as claimed. The only disclosure of this feature is found in appellant's application. It is impermissible to engage in a hindsight reconstruction of the claimed invention, using appellant's structure as a template and selecting elements from the references to fill the gaps. The references themselves must provide some teaching whereby appellant's combination would have been obvious. In re Gorman, 933 F.2d 982, 986, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991).

Thus, for the reasons set forth above, appellant respectfully asserts that claim 29 is allowable over the recited combination of references.

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Claim 30 recites that the operating shaft includes a cam portion defining a profile that cooperates with the brake mechanism to move brake pads toward a brake disc, with the operating shaft extending from the cam portion to a distal end, and wherein the distal end contacts the switch. For the reasons set forth above, appellant asserts that there is no motivation or suggestion to modify Hockley with the teachings of White because the proposed modification would render the Hockley unsatisfactory for its intended purpose and would change the principle of operation of Hockley.

However, even if motivation or suggestion could be found, modifying Hockley with the teachings of White would not result in the structure recited in claim 30. White teaches the use of a switch 56 that is mounted to the moving push rod 14. The push rod moves the switch into contact with a central portion of the actuator lever 36. If one of ordinary skill in the art were to modify Hockley with the teachings of White, the result would be to mount a switch to the push rod 16 in Hockley such that the switch could contact a mid-portion of the shaft 18 to indicate an overstroke condition.

However, claim 30 requires that the distal end of the operating shaft contact the switch. Neither Hockley nor White disclose, suggest, or teach contacting a switch with a distal end of an operating shaft as claimed to indicate an overstroke condition. The examiner appears to be engaging in a hindsight reconstruction of the claimed invention, using appellant's structure as a template and selecting elements from the references to fill the gaps, which is not permissible. As such, claim 30 is allowable over the recited combination of references.

**Claim 31**

Claim 31 recites that the operating shaft includes a cam portion defining a profile that cooperates with the brake mechanism to move brake pads toward a brake disc, with the operating shaft including a tab portion that extends outward from the operating shaft adjacent the cam portion wherein the tab portion contacts the switch. For the reasons set forth above, appellant asserts that there is no motivation or suggestion to modify Hockley with the teachings of White

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because the proposed modification would render the Hockley unsatisfactory for its intended purpose and would change the principle of operation of Hockley.

However, even if motivation or suggestion could be found, modifying Hockley with the teachings of White would not result in the structure recited in claim 31. White teaches the use of a switch 56 that is mounted to the moving push rod 14. The push rod moves the switch into contact with a central portion of the actuator lever 36. If one of ordinary skill in the art were to modify Hockley with the teachings of White, the result would be to mount a switch to the push rod 16 in Hockley such that the switch could contact a mid-portion of the shaft 18 to indicate an overstroke condition.

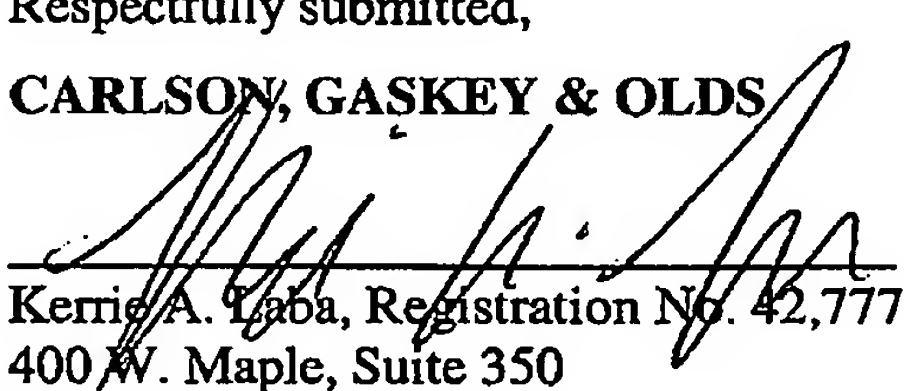
However, claim 31 requires that a tab portion adjacent to the cam portion contact the switch. Neither Hockley nor White disclose, suggest, or teach contacting a switch with tab portion of the operating shaft as claimed to indicate an overstroke condition. The examiner argues that element 36, i.e. indicator, of Hockley is considered as corresponding to the claimed tab portion; however this "tab portion" is clearly not adjacent to a cam portion as defined in claim 31. Indicator 36 is instead located near a distal end of the shaft 18. Thus, for the many reasons set forth above, claim 31 is allowable over the recited combination of references.

### CONCLUSION

For the reasons set forth above, the rejection of all claims is improper and should be reversed. Appellant earnestly requests such an action.

Respectfully submitted,

**CARLSON, GASKEY & OLDS**



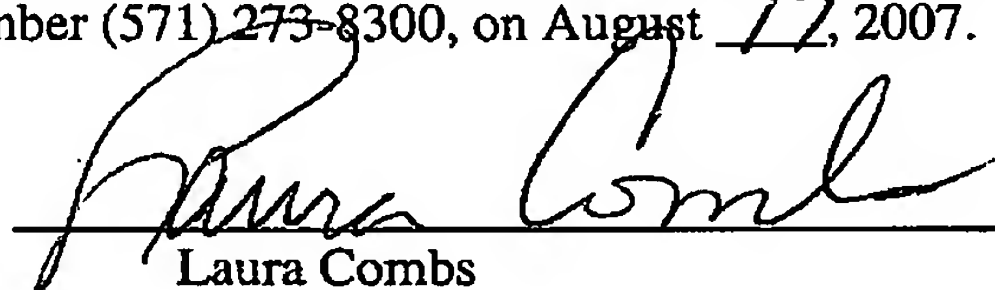
Kerrie A. Taba, Registration No. 42,777  
400 W. Maple, Suite 350  
Birmingham, MI 48009  
(248) 988-8360

Dated: August 17, 2007

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I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office, fax number (571) 273-8300, on August 17, 2007.

  
\_\_\_\_\_  
Laura Combs



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### CLAIMS APPENDIX

24. A brake assembly comprising:  
a housing portion comprising a fixed component adapted for attachment to a vehicle structure;  
an overstroke sensor mounted to said housing portion; and  
an operating shaft that actuates a brake mechanism, said operating shaft rotating about a pivot axis relative to said housing portion, and wherein said operating shaft cooperates with said overstroke sensor to identify an overstroke condition.
25. The brake assembly according to claim 24 wherein said overstroke sensor is directly mounted to said housing portion.
26. The brake assembly according to claim 24 wherein said housing portion comprises a non-rotating brake component.
27. The brake assembly according to claim 24 wherein said operating shaft selectively engages said overstroke sensor.
28. The brake assembly according to claim 24 wherein said overstroke sensor generates a signal that is communicated to a controller.
29. The brake assembly according to claim 28 wherein said overstroke sensor comprises a switch fixed to said housing portion.
30. The brake assembly according to claim 29 wherein said operating shaft includes a cam portion defining a profile that cooperates with the brake mechanism to move brake pads toward a

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brake disc, said operating shaft extending from said cam portion to a distal end, and wherein said distal end contacts said switch.

31. The brake assembly according to claim 29 wherein said operating shaft includes a cam portion defining a profile that cooperates with the brake mechanism to move brake pads toward a brake disc, said operating shaft including a tab portion extending outward from said operating shaft adjacent said cam portion wherein said tab portion contacts said switch.

32. The brake assembly according to claim 24 wherein said overstroke sensor comprises a visual indicator of an overstroke condition.

33. The brake assembly according to claim 32 wherein said visual indicator comprises one of a movable post and a resilient buckling member, said one of a movable post and a resilient buckling member being movable relative to said housing portion in response to contact from said operating shaft to indicate an overstroke condition.

35. The brake assembly according to claim 24 wherein said housing portion comprises a housing wall having an opening extending through an entire thickness of said housing wall, and wherein said overstroke sensor is mounted within said opening such that at least a portion of said overstroke sensor extends outwardly of said housing wall.

36. A method of indicating an overstroke condition of a brake assembly having an operating shaft that actuates a brake mechanism, the method comprising the steps of:

- (a) mounting an overstroke sensor to a non-rotating brake housing portion; and
- (b) rotating the operating shaft about a pivot axis relative to the non-rotating brake housing portion to selectively contact the overstroke sensor to identify an overstroke condition.

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37. The method according to claim 36 wherein step (a) includes directly mounting the overstroke sensor to the non-rotating brake housing portion.
38. The method according to claim 36 wherein the overstroke sensor comprises a visual indicator of an overstroke condition, with the visual indicator including a movable member, and wherein step (b) includes moving the movable member relative to the non-rotating brake housing portion in response to contact from the operating shaft to indicate an overstroke condition.
39. The method according to claim 36 wherein the non-rotating brake housing portion comprises a housing wall having an opening extending through an entire thickness of the housing wall and wherein step (a) includes mounting the overstroke sensor within the opening such that at least a portion of the overstroke sensor extends outwardly of the housing wall.
40. The method according to claim 36 wherein step (b) includes generating a signal from the overstroke sensor to identify an overstroke condition, and communicating the signal to a controller.
41. The brake assembly according to claim 24 wherein said housing portion is part of a brake housing that substantially encloses the brake mechanism.
42. The brake assembly according to claim 41 wherein said housing portion defines an inner cavity that receives said operating shaft such that said housing portion substantially surrounds and encloses said operating shaft.
42. The brake assembly according to claim 42 wherein the brake mechanism includes at least one piston that transmits force from said operating shaft to a friction pad that is engageable with a rotating brake component.

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44. The method according to claim 36 including substantially surrounding and enclosing the operating shaft within the non-rotating brake housing portion.

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## EVIDENCE APPENDIX

None

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# **RELATED PROCEEDINGS APPENDIX**

**None**